

## 2019 Arboviral Surveillance Summary

### Summary

The New Hampshire Department of Health and Human Services (NH DHHS) tested human, veterinary, and mosquito specimens for arboviruses in 2019. Testing performed at, or in coordination with, the NH Public Health Laboratories (PHL) identified positive results for all four arboviruses known to circulate in New Hampshire (NH). Three of these viruses are transmitted by mosquitoes: West Nile virus (WNV), Eastern Equine Encephalitis virus (EEE), and Jamestown Canyon virus (JCV). Powassan virus (POW) is transmitted by the blacklegged tick.

Given the extensive arboviral activity detected in NH and our region during the 2019 season (July 1 – October 15), NH DHHS encourages individuals and communities to maintain heightened levels of mosquito-borne disease education, surveillance, and control during 2020. It is possible that the intense EEE activity experienced by Massachusetts, Connecticut, Rhode Island, and New Jersey in 2019 could move north to NH and neighboring states during the 2020 season.

**Table 1: Specimens Tested and Arboviral Test Results by Year, 2015-2019\***

Species	Mosquito Batches			Veterinary			Humans				
	Tested	WNV+	EEE+	Tested	WNV+	EEE+	Tested	WNV+	EEE+	JCV+ <sup>‡</sup>	POW+ <sup>‡</sup>
2015	3,678	2	2	11	1	0	65	0	0	1	0
2016	1,773	1	0	10	0	0	31	0	0	0	1
2017	4,176	9	0	7	0	0	31	1	0	4	1
2018	4,945	32	6	13	4	0	30	0	0	1 <sup>€</sup>	0
2019	5,610	1	16	19	1	2	35	0	0	3	2

\*Comparison between years must consider variations in surveillance criteria.

<sup>‡</sup>Testing completed by the Centers for Disease Control and Prevention (CDC).

<sup>€</sup>Infection likely acquired out of state.

### Human Surveillance

Between January 1 and December 31, 2019, 35 patients were tested for EEE and WNV at the NH PHL.

- No human samples tested positive for WNV.
- No human samples tested positive for EEE.

Additionally, between January 1 and December 31, 2019, 28 patients were tested for POW and JCV at the CDC.

- Three patients tested positive for JCV.
- Two patients tested positive for POW.
- These test results include two patients that tested positive for both JCV and POW.

## Animal Surveillance

Between January 1 and December 31, 2019, 19 veterinary specimens were tested for EEE and WNV at the NH PHL.

- One hawk tested positive for WNV.
- Two horses tested positive for EEE.

## Mosquito Surveillance

Between January 1 and December 31, 2019, 5,610 mosquito batches were tested for EEE and WNV at the NH PHL.

- One batch tested positive for WNV in the city of Manchester (1). The species that tested positive was *Culex pipiens/restuans* (1).
- Sixteen batches tested positive for EEE in the cities and towns of Candia (3), Freemont (3), Manchester (3), Pelham (3), Hampstead (1), Newton (1), Portsmouth (1), and Sandown (1). The species testing positive were *Culiseta melanura* (9), *Coquillettidia perturbans* (6), and *Culiseta morsitans* (1).
- Mosquito batches were submitted for testing from Cheshire, Hillsborough, Rockingham, and Strafford Counties.

## Public Health Threat Declaration

A Public Health Threat Declaration was not in effect for the 2019 NH mosquito season.

## Regional Risk Levels

- In 2019, the NH DHHS estimated human risk levels for defined “Focal Areas” in the State. “Focal Areas” may incorporate multiple municipalities and are based on integrating mosquito habitat, mosquito abundance, current and historic virus activity, and weather conditions needed to present risk of human disease.
- During the arboviral transmission season, estimated risk levels were announced to the public, local officials, and state partners through email, press releases, postings to the Bureau of Infectious Disease Control (BIDC) and Division of Public Health Services (DPHS) Twitter and Facebook webpages, and postings to the NH DHHS website.
- NH DHHS updated the Risk Map throughout the 2019 season to reflect changes in risk levels. For 2019, risk levels across the state ranged from “Baseline/No Data” to “High” depending on current and historical arbovirus detections.
- For more information on the arboviral test results and to view the final 2019 Risk Map, please visit: <http://www.dhhs.nh.gov/dphs/cdcs/arboviral/results.htm>.

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